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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668

JUN 4 1938

Not for publication without
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REPORT FOR THE WEEK ENDING JUNE 4, 1938.

HAVRE:

Favorable weather continued. Light showers occurred on three days, and good growing temperatures prevailed. In the experimental field, roadways were lined up, hoeing and trimming cereal nurseries begun, sweetclover projects planted, and routine dates of seeding made. Pale western and army cutworm damage has been noted here and there in corn. Alfalfa and bean variety projects emerged with uniform stands.

The entire beef cattle herd was weighed and driven to the south school section lease, preparatory to moving to summer range next week.

Maximum temperature, 78°; minimum, 41°; precipitation, 0.38 inch.

JUDITH BASIN:

Clear weather prevailed during the greater part of the week, and vegetation in general made very rapid growth. Land plowed for fallow had a heavy growth of weeds and showed very little moisture, although crops have not suffered any to date.

Cattle weighed from pasture tests on May 31st showed very good gains, with native and crested wheatgrass leading over bromegrass.

Work during the week included the planting of corn on general fields, fallowing, cultivating shelterbelt, trimming and cleaning roadways and planting potatoes on rotations.

Maximum temperature, 76°; minimum, 41°; precipitation, 0.04 inch.

HUNTLEY:

Good growing conditions continued during the week and all crops made good progress. Winter rye is now fully headed and a few heads are appearing in some of the plots of winter wheat. Spring-sown small grains are doing nicely and now show no signs of their recent frost injury. Flax, however, was duckfooted and replanted, as a large percentage of the seedlings failed to recover from the freeze.

Corn planted a week ago is coming up, but stands are still incomplete. Sorgo, Sudan grass and soybeans were seeded in the pasture and check plots. Other field work consisted of plowing under rye for green manure, plowing fallow, duckfooting roads, cutting rye hay and cultivating alleys.

Mormon crickets are active within a mile of the station and combat crews have been working with dusting machines and tin barriers in an effort to control their advance. Oil is being spread upon the surface of the main irrigation canal and appears to be quite effective in killing the insects that are driven into the water. Cricket damage, to date, is reported as slight.

Maximum temperature, 82°; minimum, 35°; precipitation, Trace.

SHERIDAN:

More rain the first of the week, with light showers later, prevented field work until the 2nd. Land was then prepared for planting forage sorghums, and the seeding done. Growth of all vegetation continues good.

Flax sown last week has emerged with a fair stand. Corn planted May 13 emerged the first of the week, but is being eaten off by cut worms. Winter rye, brome and crested wheatgrass headed early in the week.

Crickets began to move in on the station along the west line in great numbers on the 2nd, some getting as far as the rotations and varieties. Dusting with the power duster was started and the entire west portion of the station dusted wherever the duster could be gotten through. As the crickets are in great numbers in the pasture to the west and north, and dusting there prohibited by the lessee although there is no stock in the pasture, control of crickets coming from that direction is rather doubtful. This morning they appear to be moving straight south through the area dusted. They are now reported crossing the creek from the east, and oiling will be started there this afternoon.

Maximum temperature, 76°; minimum, 39°; precipitation, 1.25 inches.

MANDAN:

Agronomy - The past week was favorable for all field work. Sorgo and millet varieties were planted early in the week. Fallow plots were plowed. Corn is up to a good stand.

Crested wheatgrass is now fully headed. Drilled fields are rather poor, but rows are fairly good. The grass got a poor start because of rainfall shortage early in the season.

The total rainfall for May was 2.42 inches, which is near normal for the month. The total for the year to June 1 is 5.63 inches which is near normal.

More grasshopper bait was spread during the week.

Maximum temperature, 85°; minimum, 44°; precipitation, 0.06 inch.

Cooperative grazing experiment - Steers were weighed at the end of May and showed good gains for the ten days on pasture. The following gains were made:

Pasture (acres)	No. Steers	Gain per head (lbs.)
100	10	50.0
70	10	50.5
50	10	42.5
30	10	38.5
70 (pot.)	14	49.6
7 (Cr.wheat)	4	52.5
12.5 (mixed grass)	6	54.2

Horticulture - Horticultural plants have been making a good growth during the week, encouraged by warm weather and a fair supply of moisture in the soil. Sets of fruits in the orchards are variable, but it appears that most varieties have set a fair crop except some early blooming varieties of crabs and plums, and most of the apples which failed to show much bloom.

Winter injury notes are now being taken. In general old trees show more killing than younger ones. It appears that most of the injury is drought damage rather than killing from cold. The amount of injury seems to depend largely on the condition of the tree and weakening caused by drought in previous years. Thus a hardy native may show more killing back than a more tender variety, depending on the age and condition of the tree. The second spray is now being applied.

Potatoes are now coming up and the field has been harrowed. Tomatoes in the breeding project were set out during the week. All previously planted crops have been cultivated and hand-weeded. Everything is still holding its own but all recently planted crops are beginning to suffer for lack of water in the topsoil. Moisture 6 inches or so below the surface seems plentiful and fall plowing this year is distinctly superior for garden crops.

Shrubbery at present in bloom on the grounds include Spirea Van Houttei, Viburnum lentago, americana and opulus. Peonies appear to be late but the damage from frost evidently is not so severe as was first thought. Aquilegia, Pyrethrum, Trollicus and Iris in variety are now coming into bloom, adding a much needed touch of color to borders and beds.

Arboriculture - Cultivation and hoeing of nursery fields and tree blocks has been carried on all the week. Weeds are growing rapidly everywhere. Insect damage to seedlings both above and below ground has been very severe and it now appears as though some fields will be entirely destroyed.

DICKINSON:

Crops developed rapidly during the week as a result of a favorable supply of water in the soil and moderate temperature. With higher temperatures at the end of the week the need of more rain soon was evident. Corn has emerged with good stands. Brome and crested wheatgrass are heading.

The orchard was cultivated. Increase blocks of Siberian millet and Black Amber cane were planted. Late garden stuff was planted; tomatoes and cabbages were transplanted.

Poison bran was spread for grasshoppers. Poisoning is becoming general in the district. Hoppers are very numerous in places but as they are still too small to fly the damage as yet is evident only in very small areas.

Visitors included Wm. Leary, Extension Agronomist; Leo D. Holman, Extension Engineer; Mr. Lippert, John-Deere Implement Company, Minneapolis; and Mr. Wilke, N. P. Traveling Freight Agent.

Maximum temperature, 83°; minimum, 40°; precipitation, 0.37 inch.

BELLE FOURCHE:

The first half of the week was cool, cloudy, and wet. Substantial showers were of daily occurrence during this period, and a beneficial rain of 0.64 inch was received May 31. A total of 1.23 inches precipitation was recorded during the 4 days. No run-off occurred, and only a small amount of moisture was lost through evaporation before the weather cleared on June 1. Soil samples taken June 3 showed moisture had penetrated to a depth of 10 to 12 inches.

The total precipitation for May was 2.92 inches, which lacks only 0.01 inch of equaling the average for the month. The total precipitation for the year to date is 5.36 inches, as compared with the 30 year average of 6.07 inches. The wind movement for May was the lowest of record for the month, the mean velocity being 3.8 miles per hour, which is 3.2 miles less than the 30-year average for May.

The rain arrived just in time to save nearly all early crops. Winter rye and winter wheat have made remarkably good recovery, and spring sown small grains have resumed normal growth. Development of hay crops was seriously checked by the dry weather of preceding weeks, but crested wheatgrass and sweetclover are making some additional growth since the rain. Corn is up with satisfactory stands on all plots.

The soil was too wet to permit work in the field, except during the last 2 days. Corn was cultivated, and sorgo plots were duckfooted. Poison bait was distributed to control grasshoppers which have hatched out in exceptionally large numbers.

Maximum temperature, 86°; minimum, 43°; precipitation, 1.23 inches.

ARCHER:

On the whole the weather during the week ending June 4 was pleasant and favorable for plant growth and field operations. Two light showers totaled 0.23 inch of precipitation. The total precipitation during May was 2.32 inches. This is 0.09 inch less then the 25-year average. The 25-year average for the first five months of the year is 5.14 inches. For the same period this year the precipitation was 6.72 inches.

The trees are showing some damage as a result of the low temperatures which occurred during the first half of May. However, most of them, except the Russian olives, were not seriously injured. The Russian olives were killed back severely.

Crops, generally, are promising. At the station the winter rye on fallow is waist high. Winter wheat has made an uneven growth, small spring cereals are in very good condition, and corn in the rotation plots is emerging. A good shower would soften the soil and aid in the emergence of the corn. This is especially true of corn listed before the heavy rain of May 20.

During the week the fallow and winter rye green-manure plots were plowed and tilled. The winter rye was heading and probably would have produced at the rate of 1800 pounds of hay per acre. The varieties of sorghums were seeded. Four acres in the experimental field and twenty acres in the dairy field were duckfooted and seeded to millet. The tillage of the larger fields to be fallowed started to-day.

A. W. Willis, Extension Economist of the University of Wyoming, and County Agent C. S. Llewellyn visited the station June 3.

Maximum temperature, 84°; minimum, 36°; precipitation, 0.23 inch.

NORTH PLATTE:

Rain fell the first three days of the week, totaling 1.91 inches. There was very little run-off, and nearly all of the moisture will be available for crops. The winter wheat is fully headed, and is beginning to fill. The early varieties of oats, barley, and spring wheat headed the later part of the week. With a few additional rains during June, an excellent small grain crop is in prospect. The corn on the plots has emerged with good stands, and cultivation will begin in a few days. The bulk of the fallow plots were plowed and packed during the week.

The precipitation for the first five months of the year totals 9.53 inches which is 2.73 inches above normal; 4.87 inches fell during May. Moist soil can be found in the fallow plots to a depth of 4 and 5 feet.

Grasshoppers are very numerous, but they are small and very little damage has been done so far.

The annual crops field day has been scheduled for June 24.

Maximum temperature, 80°; minimum, 50°; precipitation, 1.91 inches.

AKRON:

Last Sunday evening a rain storm approached from the west that seemed to center over the station. Precipitation from this storm was 2.68 inches in about three quarters of an hour at the station; 1.78 inches four miles west in Akron; and 1.50 inches ten miles east in Otis. There was hail enough at one time to cover the ground, but its damage to crops, trees, and shrubs was very light. There was some run-off, but due to the fact that the water-shed to the west was either covered by growing grain, or surface pock-marked, and that the station soil was similarly surfaced, the natural drainage through the station was a light running stream and not a torrent as in some times past. Two series of the forage variety ground still surface roughened did not lose any, though the basins were full to the rims. Two other series leveled just the day before to destroy weeds and to make the land ready for seeding lost some though not enough to cause any soil erosion. This moisture should be very beneficial to the early heading small grains, but was more or less damaging by unduly covering the seeded corn and the emerging grasses. This increased a slightly better than normal May rainfall to 5.58 inches, one of the four May rainfalls in the past 30 years to exceed 5.00 inches.

Station crops look very promising. Club Mariout barley and Kharkov winter wheat are heading on the rotations. Brunker oats on bean land are heading. Practically all the winter wheat varieties are in head.

Wet soil prevented many types of field work, though good progress was made with field problems. Rotation green manure pea plots were plowed under this week-end. Sorghum nursery was seeded. All station roads were worked and all alleyways cultivated. Volunteer winter wheat was at last largely eliminated. Forage varieties were again surface worked this week-end preparatory to seeding. Nursery was weeded. Much progress has also been made toward ridding the variety experiments of volunteer grain carried onto the land by last September's flooding rain. Due to additional field labor, work is well in hand.

Wild brome (Bromus tectorum) which made its first appearance about 1930, has now completely dominated the weed population along fence rows, in the border planting of trees, and is making rapid progress towards occupying the ground among the old pines. Smooth brome would have better adaptation if it could be crossed with this so well adapted scourge. Mixed plantings with inermis are being searched for possible field hybrids. It appears that they do not normally bloom concurrently, and that the natural flowering habits of the two would minimize the chances for natural cross-pollenization.

J. J. Curtis brought Herbert Kramer down Thursday evening, and stayed until the sorghum nursery was seeded Friday. Mr. Kramer will remain during the summer as the Colorado Station's contribution to the operating staff.

Maximum temperature, 93°; minimum, 42°; precipitation, 2.68 inches.

HAYS:

The early part of the week was cloudy and cool. The latter part was clear and warm most of the time. Heavy rains the first two days renewed the muddy topsoil condition, thus interfering with all tillage work and row planting for the week. Today the surface soil is partly dry but the soil underneath is still quite wet. A harrow is being used to break the crust so that the soil may dry more rapidly where we are anxious to get the corn and sorghum planted.

Winter wheat, oats, and barley are developing grain very slowly. The earliest heads of wheat have kernals three fourths formed, in other heads the kernals are only started, most of the leaves are yellow to the top of the plants. The stems are thoroughly green. The soil is now wet into the second foot and in some cases almost to the bottom of the second foot. It would therefore seem that there is sufficient water in the soil to finish the crop providing other factors do not interfer with the development of the wheat. Oats and barley are in good condition. Spring wheat is beginning to head. Alfalfa is looking good. Peas are also doing well.

The rain May 30, was accompanied by a heavy wind which lodged the grain quite badly, especially oats, barley, and some plots of heavy wheat. Since that time, however, these grains have straightened up and for the most part look good.

Plant lice are quite thick in the small grains. Grasshoppers which have not been previously mentioned in these reports, have been hatching for some weeks along fence rows in all fields which have not been worked since last summer. The grasshoppers are very numerous in places, and threaten considerable damage. Organized efforts are being made in some counties to destroy these insects with poisoned mash. The counties are providing the material and selling same to farmers at cost. In some localities during the spring there have been small out-breaks of pale western cut worms and in some localities army worms are doing some damage. Hail has hit hard in streaks causing losses varying from slight to complete destruction of the crop.

The rains during the early part of the week were much heavier in some localities than in Hays causing heavy losses to low land crops, some property, and bridges. At Hays the water of Big Creek was across the State Highway No. 1 on both sides of the bridge, and flooded part of the Fort Hays State Nursery. The Smoky Hill River south of Hays flooded a portion of the valley almost from hill to hill, and was one foot over the floor of a twenty-one span bridge on No. 1 highway. Several bridges across the Smoky both east and west on highway No. 1, were washed out.

Maximum temperature, 86°; minimum, 51°; precipitation, 2.73 inches.

Total precipitation on the project for the month 8.04 inches. By the weather bureau gauge on the station campus, the total precipitation was 8.21 inches. During the month rains of 0.01 inch or more occurred on sixteen days.

TUCUMCARI:

Precipitation of two inches on May 30 was the first of value in several weeks. Two showers later in the week prevented any field work. Total of 5.30 inches for the year to date is normal for the period. Fields and ranges are in favorable condition and planting will be rushed in this locality as early as fields are fit to work.

Temperatures in May ranged from 31 to 100, an unusually wide variation. No precipitation of value was received until next to the last day of the month. Crop and increase fields had received timely early cultivation, lacking only a final field cultivation prior to planting. This final cultivation still remains to be made.

The week was devoted to repairing pasture contour furrows, adding new contours, and repairing other dikes and dams; hoeing trees and shrubs; spraying vineyard; and the final sorting of planting seed.

Maximum temperature, 100°; minimum, 50°; precipitation, 2.38 inches.

DALHART:

It becomes increasingly disheartening to be continually reporting on our current drought. After seven years of below average rainfall it didn't seem possible that conditions could get much worse. But right now it can be appreciated why this area is in the heart of the territory which was formerly called the Great American Desert. The moving, flowing landscape of shimmering sand is an aggravating environment. The total precipitation for the 8 months ending May 31 was 4.67 inches, which the 30-year average for the same period is 8.20 inches. We know that it is possible to receive sufficient moisture to produce a good crop in the next four months. The discouraging part of this below average 8-months precipitation is the close correlation existing between this 'under five inch' precipitation for this period and the crop yield for the year which follows. There have been no exceptions to this close correlation during the current drought cycle. If we extend the eight-month period by 3 days into June we exactly halve our annual rainfall; 8.81 inches coming alike in each period. Likewise there is a rather close correlation in this rainfall distribution. Formulae further show that nearly 8.81 inches of precipitation is the zero point for zero yields, and that nearly the same percentage of the minimum precipitation is in each period. The safest statement to make is that following such years of low eight-month precipitation a good crop is the exception.

May 30 with a 21.0 mile wind for the 24 hours was just another regrettable experience, while yesterday with only 9.4 m.p.h. wind average was pretty gritty. One other day, which made 3 for the week, gave bad, sandy weather. The pleasant consolation (rather like a booby prize) is that we have reached the time of the year when the frequency of sand storms is diminished. This spring is remembered for the consistency of high wind velocities. The month of March was the second windiest March on record; the average for 1935 was only slightly higher, while the monthly wind velocities for April and May 1938 were the greatest so far recorded, beating for both months the 'highs' set in 1935 -- the previous 'worst' spring.

The corn, Pinto bean, soybean, and peanut rotation plots were seeded the first of the week. The first date of planting of the sorghum variety plots was made on June 1. Further planting is being delayed for more favorable weather conditions.

Maximum temperature, 96°; minimum, 53°; precipitation, 0.26 inch.

BIG SPRING:

Weather conditions during the past week have been varied and some of them anything but encouraging. During the first half considerable time was spent in sand furrowing with hopes of holding what had emerged. This was all in vain for a torrential downpour was received on the night of June 2 when 2.15 inches of precipitation was recorded in less than an hour's time. This rain came with such force that it washed in sufficient soil to cover everything that had not emerged so deep that it can not get up. The following night a severe wind and sandstorm just about finished the cotton and cowpeas that had survived the rain. With the exception of milo and sumac and the late dates of planting, everything had been planted, but it now looks like everything will have to be replanted.

Maximum temperature, 105°; minimum, 65; precipitation, 2.15 inches.

WOODWARD:

May passed with 8.33 inches of precipitation, setting a new record for the month over the 8.11 inches for May 1923. The 24-year average, as recorded by the station for the month of May is 3.48 inches. During the period Jan. 1 to May 31 17.20 inches of precipitation were received. This compares with the 24-year average of 8.42 inches and 5.67 inches for May 1937.

Soil is now in excellent condition for planting row crops, and there will be intensive action in planting next week if weather conditions permit.

The entire wheat plant is taking on a golden color. Grain is in the dough stage and from all observations the heads are going to be well filled. Wheat seeded with the Dempster and Superior 14 inch furrow drills in stubble on October 29 has reached a height of approximately 12 inches with sunflowers and various other weeds coming in very thick; while stubbled-in plots seeded on September 29, with the same drills, are taller with very few weeds coming in. If harvesting is not delayed by rainy weather the weeds will be high enough to cause some trouble. Should we have a wet harvest season it may be almost impossible to harvest the wheat.

Ranches are in excellent condition considering the punishment received during the past few years.

Plants in tomato fertilizer and variety tests are making a nice growth. Some plants in April 15 planting are starting to bloom.

Dr. K. S. Quisenberry, in charge of hard red winter wheat investigations and cereal breeding at Lincoln, Nebraska and Edmund Stephens, now in the budget office in Washington, spent a few days visiting the station.

Station work consists of rogueing wheat, hoeing alleys, trimming wheat plots, disking orchards, vineyards, and windbreaks, and planting miscellaneous tree and shrub cuttings and seedlings taken from the greenhouse to the nursery.

Maximum temperature, 94°; minimum, 59°; precipitation, 0.55 inch.

LAWTON:

Field work progressed with much satisfaction during the past week, in spite of the face that 1.17 inches of precipitation were recorded from May 30 to June 3.

Sorghums, corn, and alfalfa are making a vigorous growth. Thinning of kafir and feterita on the rotations was completed and a good start was made on the chinchbug sorghum resistance project. Continued rains have added to the difficulty of securing good stands of cotton, and late planting will be the general rule this year. Most farmers are battling grasshoppers for such stands as have emerged or are emerging.

Wheat binders were busy throughout the county the past week and just a little combining was done. Yields are much less than was generally estimated. Lodging and broken culms are nearly 100 percent in the early maturing wheats. In the Grandfield territory where worm damage was so extensive, the yields range from 1 to 3 bushels of shriveled seed. It is now generally conceded that the wheat crop in southwestern Oklahoma will be a negligible quantity.

Another extensive hail, rain and wind storm struck the southwestern part of the state June 3, devastating small grain crops that had escaped similar storms since May 6. Heavy property damage and loss was also reported from many sources. The immediate vicinity of Lawton escaped this storm.

Maximum temperature, 94°; minimum, 61°; precipitation, 1.17 inches.

PENDLETON:

During the week the fall sown wheat gained considerably in height and some of the early fall sown wheat began to color up. Rain is needed on all the spring wheat and in some sections the fall sown wheat is in need of rain. On the station all grains are in good condition and will mature very good crops without rain. Spring wheat is heading rapidly.

Forty eight plots of alfalfa and grass mixtures were cut this week on the S. C. S. cooperative project. Alfalfa and sweetclover on the rotation plots were also cut this week.

A portion of the fallow land was rod weeded as a few Russian thistles had started growth. Lack of rains has delayed weed growth.

A crew of men under the Bureau of Entomology and Plant Quarantine are dusting about 1500 acres in this county in an attempt to control Mormon crickets. This is the first outbreak of Mormon crickets in this area in many years. Pea growers are having to put on much Rotenone dust this year to control pea weevils.

Visitors: D. C. Smith and G. W. Fischer, Division of Forage Crops and Diseases, Pullman, Washington.

Maximum temperature, 92°; minimum, 35°; precipitation, none.

NOTE:

Mr. John S. Cole left Washington on June 8, for a trip to inspect northern and central stations of the Division of Dry Land Agriculture.

GARDEN CITY:

The moisture this week came in three rains which totaled 0.71 inch. This brought the total for May up to 3.25 inches while the normal for the month is 2.65 inches. The total for the year to June 1 is 6.14 inches; the normal for this period is 6.05 inches. Three days of the week were dusty, but most of the dust came in from other areas, and very little local blowing occurred.

Field work consisted of duckfooting and rodweeding those plots which are to be planted to row crops, plowing the plots scheduled to be worked June 1, and lister planting milo on the basin lister project.

Although there has been above normal moisture, the spring small grains are beginning to burn, and even the thistles on continuous cropped wheat plots are showing the effects of the lack of moisture.

Maximum temperature, 95°; minimum, 50°; precipitation, 0.71 inch.

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REPORT FOR THE WEEK ENDING JUNE 11, 1938.

HAVRE:

Much cooler weather prevailed, with a minimum of 35° and light scattered frosts on the 6th. There was snowfall at higher elevations, but very little precipitation was recorded at the station.

Weeding of roadways, alleys, and cereal nurseries was completed in the experimental field, and the cultivation of corn begun. Some winter wheat and early planted spring rye are beginning to head. A subirrigated field of Ladak alfalfa was clipped, the second crop being intended for seed. Alfalfa has made excellent growth thus far.

The beef cattle herd was moved to summer range at the Bear Paw mountain lease. Repairing of fences and additional cross fencing is being done.

Visitors included R. D. Mercer, Extension Agronomist. A Farmers Union Junior state group of some 120 members is now occupying the barracks building.

Maximum temperature, 85°; minimum, 35°; precipitation, 0.07 inch.

JUDITH BASIN:

With the exception of two days the week has been very cool causing plant growth to be rather slow. Crops in general have made a good growth to date but spotted firing indicates the need of moisture.

The winter rye and sweetclover in the rotations were plowed under during the week. Rotations and variety plots were trimmed and alleys given their first cultivation. The cultivation and weeding of the shelterbelts and the cultivation of the large bulk field of crested wheatgrass are now in progress.

The student assistant, Mr. Samuel Litzenberger, has returned for the summer to take charge of the Cereal work. Dr. R. H. Bamberg from Bozeman was a station visitor on the 9th and 10th.

Maximum temperature, 82°; minimum, 30°; precipitation, 0.07 inch.

HUNTLEY:

Weather during the week was clear, somewhat windy, and with the exception of 2 days, relatively cold. A light frost at the close of the period did some damage to field beans, sorgo and corn but it was not extensive enough to greatly affect stands on the station plots. This frost was later by a week than the previous date of the latest spring frost, and three weeks later than the average.

The passing of the second rainless week left winter wheat looking a little dry. However, the drought period may have been a blessing in disguise as it seemingly has checked straw growth and forced the wheat into heading. Rains will be needed to fill the grain as soil samples show the reserve soil moisture to be getting low. Spring grains and corn still have plenty of moisture to carry them for a while.

Field work consisted of plowing fallow plots, cultivating corn, duckfooting roads, and hand-planting corn in spots where pheasants destroyed the stand of the original seeding.

Maximum temperature, 90°; minimum, 31°; precipitation, Trace.

SHERIDAN:

Fair weather prevailed over the entire week, with one day of high wind, and quite variable temperatures. Maximum temperatures varied from 80 or only slightly above on 3 days, to below 70 on 4 days, while nights generally were cool with a light frost this morning (11th). Growth of grain, grasses, alfalfa, and some garden crops continued good, but the weather apparently remains rather cool for some other crops.

Corn emerged with a good stand the first of the week. Sudan grass sown the 3rd, and some sorgo sown at the same time, have emerged. Winter wheat and the earliest date of seeding barley are just beginning to head, while barley sown with bromegrass the middle of March is fully headed.

Most grass and the alfalfa that is badly infested with a heavy growth of downy bromegrass were cut for hay and hauled. Growth of downy bromegrass was such that some fair stands of alfalfa could hardly be noted without close examination. The remainder of the late forage crops were sown, rye in the rotations were plowed under for green manure, and plowing of Field G for fallow is in progress.

The invasion of crickets from the west appears to have been stopped by the dusting of last week, the direction of migration of those not killed being changed from east to south. Migration south through the shelterbelt just west of the east row of conifers continued for 2 days the first of the week, but now very few except dead ones can be found along the west part of the station. Infestations were found in other places on the station, and were dusted during the week. Trebi barley in Field I is being dusted today, a heavy infestation there being found this morning. Oil on Dutch Creek has been quite effective where they are attempting to cross a short distance north of the station.

Maximum temperature, 84°; minimum, 32°- apparently no damage, precipitation, None.

MANDAN:

Agronomy - The past week continued dry. Grass is again starting to dry up in spots. Weather remains very cool for this time of year. There was only one warm day during the week.

Cutworms are starting to do some damage on the station and are reported to be serious in some parts of the county. Grasshoppers seem to be thick most everywhere around the station. Spreading of bait continued during the week. A very high wind prevailed on the 6th.

Corn was given the first cultivation during the week. About 5 acres of Sudan grass for feed were planted in field P.

Maximum temperature, 87°; minimum, 38°; precipitation, Trace

Cooperative Grazing Experiment - Native vegetation is making little growth at present. The cattle all appear to be doing well on their pastures.

Horticulture - Trees and shrubs have been making a good growth, but rain would now be beneficial. In general the trees look much better than they have for the past few years.

Work has been confined largely to cultivating and hoeing. Softwood cuttings were made on June 9. The cuttings were largely material needed for cooperators, including currants, gooseberries and grapes.

Tests in the seedbeds on Pyrus baccata seedlings, show much better color where vigoro fertilizer was applied than where it was not.

Vegetables are still holding their own although the continued dry, cool weather is decidedly retarding them. Legumes, cucumbers, sweet corn and potatoes look good; tomatoes, cabbage, eggplant and all other transplanted crops are showing need of water. Root crops look the poorest. The early plantings have suffered from winds and insects until the stand is very poor and late planted crops have not had sufficient moisture in the topsoil for germination.

Hedges are being trimmed and the work has been in progress most of the week.

Syringa villosa and josikea, Physocarpus opulifolia and Cornus stolonifera, and persian yellow and native roses, are the only shrubs in bloom about the grounds at the present time. In perennials, Aquilegeas in variety, Pyrethrum roseum, and Lillium elegans are making an excellent display of bloom. Peonies are starting to open up but on the whole will be rather late this season.

Arboriculture - Cultivation and hoeing has been carried on all the week. Weeds are making rapid growth. Insects have destroyed the entire stand of American elm seedlings and part of the land has been replanted. Chinese elm seedlings are also being damaged severely and will probably have to be replanted. Rain would greatly benefit all plant growth.

Mr. John S. Cole arrived on the morning of the 10th. W. C. Allen, Publisher and Editor of the Dakota Farmer, Evan W. Hall, Agricultural Agent Milwaukee Railroad, and a group of North and South Dakota County Agricultural Agents, visited the Station Tuesday and Wednesday.

DICKINSON:

Warm weather early in the week was followed by much lower temperatures with a heavy shower of 1.12 inches on the night of the 8th. The temperatures on two nights were near frost. This cool weather with plenty of moisture in the surface soil was very favorable for grains and grasses.

Stands of wheat on fallow, green manure plots and fall plowing are thick and vigorous, and are about a foot high. On spring plowing stands are somewhat thinner because the soil was too dry after seeding for some of the plants to emerge. Corn stands on the station are generally good having been thinned only slightly by cutworms which are reported to be doing much damage to corn in the district. The rain came so rapidly that some washing occurred so flax and millet on the rotations may need to be reseeded. Weeds are making a vigorous growth and everything needs cultivating as soon as possible.

Visitors during the week included Dr. E. A. Starch and Rex Willard, Farm Security Administration, Denver, Colorado; Wayne Austin, Dr. H. D. Stoesz and Frank Harper, Soil Conservation Service, Rapid City, South Dakota; and Harry Graves, Extension Horticulturist, NDAC, Fargo.

Maximum temperature, 81°; minimum, 34°; precipitation, 1.16 inches.
Precipitation to date in June, 1.51 inches.
Precipitation to date this year, 7.09 inches.

ARCHER:

During Sunday, June 5, the weather was warm. The remainder of the week was cool and threatening. Precipitation was recorded every day of the week but the total was only 0.13 inch. The weather was favorable for small cereals but retarded the growth of corn and beans and delayed the emergance of the millet and sorghums.

During the week 10 acres of silage corn were relisted and the fields to be fallowed were tilled with the eccentric one-way. A 10 acre field was seeded to Sudan grass and 25 of the 30 acres of winter rye were cut for hay. The remaining 5 acres will probably be cut Monday. The rye varied from 42 to 54 inches in height and was not in bloom.

During June 9 a trip was made into southwestern Nebraska as far east as Kimball. Crops generally had made good growth. However, those in the region south of the Union Pacific Railroad and extending to about 10 miles north of the railroad were badly in need or rain. North of this area recent rains had improved crop conditions. In most of the region traveled winter wheat was heading and most of the corn had emerged. Potato planting was in progress.

M. A. Hein and Dr. H. M. Benedict of the Division of Forage Crops and Diseases were station visitors June 11.

Maximum temperature, 84°; minimum, 42°; precipitation, 0.13 inch.

NORTH PLATTE:

All of the moisture received during the week fell during Thursday night. Some areas near the station received a good rain, but very little fell at the station. Some of the grain is beginning to burn, and the late varieties of spring wheat are delayed in heading. To date, 0.25 inch of moisture has fallen in June, and nearly three inches must fall before the end of June if we are to receive our normal for the month.

The first cutting of alfalfa was put up during the week. All of the corn plots were harrowed; the cane and kalo rotation plots, and the sorghum varieties were seeded this week.

Maximum temperature, 90°; minimum, 45°; precipitation, 0.20 inch.

AKRON:

Cool and cloudy most of the week with consequential local showers in spots. A hot day has the habit once again, as of old, of bringing rain. Station touched three times by these showers, lightly.

Forage and grain sorghum variety experiments were seeded early in the week. Rotation corn was rotary hoed and harrowed to break the crust of the last hard beating rain. Considerable odd fallow blocks were cultivated. Ten acres of Highland Kafir was seeded on fallowed land across the railroad. Much time was spent on weeding and rogueing.

Winter wheat, oats, and barley, are in head on the rotation plots and present an attractive appearance. Brunker oats, particularly, have a fine appearance this year. Rotation corn is emerging, but it is yet too early to determine just how much damage was done to stands by the crusting over of the soil.

L. W. Durrell and W. A. Kreautzer of the State College Botany Department, visited the station Tuesday. D. W. Robertson, T. G. Stewart, Rodney Tucker, R. E. Ford, and R. P. Yates, all of the State College Experiment Station and Extension Staff were here Wednesday in the interest of a crops field day which was tentatively set for June 28. J. E. Smith, Jr., of Amarillo, and George Welch of Cheyenne Wells, Colorado, SCS Officials, inspected the grass nursery work Monday.

Maximum temperature, 89°; minimum, 43°; precipitation, 0.29 inch.

COLBY:

Just as everybody had about given up hope for a small grain crop this year, a Decoration Day rain, the 19th in 25 years, soaked the ground almost a foot deep and greened everything up again so that the prospects were quite promising. Before the end of this week a shortage of moisture was again apparent, but a gully washer of nearly an inch and a half yesterday afternoon and evening soaked the ground again so that the chances are that this section of the state will harvest a fairly large crop. There was considerable soil washing and some damage to small grain on the station resulted from a rather heavy smattering of hail that accompanied the rain. The hail ranged up to an inch in diameter. Southwest of here several thousand acres of wheat were hailed out.

In spite of frost damage and considerable leaf rust wheat is filling very nicely. The heads are too short for a bumper yield, however, on the station. Some of the best fields in this county promise heavy yields. Many of the fields which were hailed the night of the 23rd of May are coming out of it in fairly good shape and look promising. The spring small grains are headed and looking fairly vigorous with the exception of barley in the D.L.A. project. The barley in the variety test looks good, but on the project it looks very ragged. Reward spring wheat, which is being used on the plots for the first time, looks much more promising in the variety test than any of the other varieties.

Corn is up to good stands. The sorghums were also coming up nicely, but were washed under to some extent last evening and will probably have to be replanted in places.

Maximum temperature, 96°; minimum, 47°; precipitation, 1.64 inches.
Precipitation for May, 1938, 4.37; 51-year average, 2.48 inches.
Precipitation Jan. 1 to June 1, 1938, 7.60; 51-year average 6.20 inches.

GARDEN CITY:

Three light showers fell this week on three consecutive days, totaling 0.62 inch. A little dust blew in on three days, but there was no local blowing.

Field work consisted of completing the cultivation of the plots to be planted to row crops, and planting sorghums. The milo that was lister planted last week on the basin lister project is up, and better stands were secured with the basin attachment than without it.

The young grasshoppers are more plentiful than they have been for several years. A weed burner and poison bran is being used to try to control them.

Maximum temperature, 94°; minimum, 52°; precipitation, 0.62 inch.

HAYS:

Part cloudy weather prevailed throughout the week. Heavy dews continued until three days ago. This morning, following a rain of 0.79 inch, it is damp and part cloudy with warm sun breaking out for short intervals. The heavy wind accompanying the rain storm caused serious lodging of oats and barley and lodging of the winter wheat to a lesser extent. This is the second time the oats and barley have lodged due to wind.

Stem rust was found on the wheat in the plots in considerable quantity last Monday. It appears that some was present earlier but had not been observed. The spread of stem rust has been retarded by the cloudy and comparatively cool weather which has been favorable for the development of the wheat. The wheat varies from the mild to the soft dough stage and from the road-side looks good for 15 to 30 bushels. However it is difficult to find a single stalk that is free of stem rust. It is not all "plastered" with rust but some can be found on every stalk or head.

The damp weather seems to be favorable for development of plant disease which threatens some added injury to the wheat. A small amount of black chaff has been observed in several fields.

There is now considerable stem rust on the oats and barley.

During the week all corn and sorghum plots were seeded, some fallows were cultivated, and a good many soil moisture determinations were made.

The Annual Field Crops' Day was held Thursday. The attendance was not as large as usual but the interest was very good. During the week the station and projects were visited by numerous officials and investigational men from the States and some from Canada.

Maximum temperature, 90°; minimum, 49°; precipitation, 0.69 inch. By the Weather Bureau Gauge on the Station Campus the precipitation was 0.79 inch.

TUCUMCARI:

Showers have occurred on eight of the eleven days of this month, totaling 1.11 inches, with 0.73 inch received the past week. Following the heavy 2-inch rain of late May, these showers made field work impossible part of the week. Good progress was made on three days.

Final preparation and planting were performed on all rotation fields, the grain sorghum variety plots and nursery rows, forage sorghum drilled plots, broomcorn variety plots, and cowpea and bean variety-date tests.

Some forty acres of increase land is now prepared for planting. Odd-time work included mowing weeds, hoeing tree rows, and cleaning grounds.

Precipitation for the year to date is 6.03 inches, slightly over the normal for this period. Ranges are improving fast and crop prospects favorable provided seedlings are not injured, although conditional upon normal precipitation throughout the summer.

All M. C. wheat and rye plots had sufficient growth to warrant harvesting, but yields will be low. Wheat prospects on the plains south are generally very unfavorable, with a great percentage of abandoned acreage.

The grasshopper battle is continuing in the northeastern part of the State, beginning some 50 miles north of Tucumcari. National guard personnel and trucks are aiding, both in this State and in the Texas Panhandle. Good kills are reported, but due to the large territory to be covered and the rough nature of most of this, haste is essential over the coming two weeks, before flight occurs.

Maximum temperature, 91°; minimum, 54°; precipitation, 0.73 inch.

DALHART:

According to reliable reports this station is now about the center of the last dry spot in this area. Most of the territory from 10 miles in each direction from the station has received rather good rains within the past 10 days. What continues to be one of the most unexplainable of natural phenomena is that for the sixth consecutive year the small area immediately east of the Hartley-Channing territory is receiving generous rains; no natural difference in the terrain is apparent which would explain the oft repeated phrase that the rains extended to the same fence lines. Our precipitation for the year now totals 3.70 inches, and for the past 12 months ending this morning the precipitation has been 9.63 inches.

Past experience has shown that our regular crops of the grain sorghums should be planted before or not later than June 20 to assure maturity. This date could be extended to the 25th with some risk of frost injury. With favorable soil moisture conditions we could just about plant everything in the next 2 weeks, but conditions are not favorable and the prospects are discouraging. Some planting could have been done a week or so ago with prospects of good emergence. Such planting was not advisable on account of so much loose sand being continually shifted around. Good emergences was secured

on the corn rotations. The June 1 date of planting of sorghum varieties gave good and fairly good emergences. No planting has been done since the peanuts were planted on June 2. The present plans call for a delay in planting until moisture is received.

A condensed table is given here to show the hazards of crop production under conditions as they have existed for six years in comparison with an average for the past 29 years. The moisture-crop year for the grain sorghums is considered to be from October 1 to September 30, incl. The grain yield in bushels per acre is the average yield of milo from the rotation project.

Crop year	Precipitation (inches) for the given period: Oct. 1 to June 10	June 11 to Sept. 30	Oct. 1 to Sept. 30	Yield of Milo
1933	2.97	7.36	10.33	0.0
1934	5.14	4.50	9.64	2.1
1935	5.12	8.39	13.51	11.1
1936	7.52	3.51	11.03	2.0
1937	9.05	4.51	13.56	14.2
1938	5.12	?	?	?
5-Yr. Ave.	5.96	5.65	11.61	5.9
6-Yr. Ave.	5.82	?	?	?
29-Yr. Ave.	9.76	8.00	17.76	22.0
30-Yr. Ave.	9.59	?	?	?

Summary: No moisture for planting until after mid-August in 1933. Just insufficient moisture for crop production in 1934. Good distribution of the summer precipitation in 1935. Actually only one effective rain after June 10 in 1936 and its effectiveness did not extend after July 25; the yield made on the low stored moisture. In 1937 the crop yield was largely the result of the May rainfall. While many comparisons could be made had additional tabular material been included, none are made and the table is supplied for informational value only.

Maximum temperature, 96°; minimum, 53°; precipitation, 0.19 inch.

BIG SPRING:

Another rain of 0.38 inch was received on the night of June 6; this was just enough to slick the fields over and start them blowing with every puff of wind. Replanting cotton was started Monday and completed Wednesday, but that which was planted before the rain will have to be scratched before it can come through the soil crust. Everything in the rotations as well as cotton spacing, cotton varieties, cowpea varieties, soybean varieties, and sorghum nursery was replanted during the week. All of the increase fields were also replanted. Other work has consisted of sand furrowing to hold the grain sorghum varieties.

Maximum temperature, 100°; minimum, 68°; precipitation, 0.38 inch.

WOODWARD:

Precipitation which totaled 0.69 inch was recorded on three days of the past week. This was so distributed in small showers that it did not interfere with planned work. A very violent dusty wind came up from the south late Thursday evening but did little damage.

Kafir, milo, broomcorn, sorgo, and cowpeas were seeded the latter part of the week. Soil conditions appeared to be ideal for seeding except for the F plot on M. C. broomcorn which was well covered with sunflowers and other vegetation that had used up most of the moisture. Poison brand was scattered over the pasture, roadside, and other places nearby having green vegetation to prevent a grasshopper infestation on the row crops.

The grasshopper epidemic is reported to be bad in pastures and alfalfa. Very little damage is being done to spring planted crops as yet but the farmers are taking good advantage of the poison bran and sawdust mixture being distributed by the County Agent here at the station.

Many of the farmers who planted sorghums early are replanting due to the heavy rains washing in and covering the seed too deep to emerge.

Wheat has ripened very fast in the past few days due to the warm days accompanied with warm winds. Plots to be harvested with the binder were bound this morning and if warm dry weather continues, combines will be going by the latter part of next week. Reports are coming in from farmers that Early Blackhull is going down, the spikes are not filling well, and the kernels are shriveled. Wheat on the station looks good and apparently will be of good quality with good yields if not damaged before harvest by rain or a hailstorm.

Two of the water outlets on the west place were sodded with Vine mesquite (Panicum obtusum) to prevent erosion. Spacing of sods varied with the intensity of erosion. Panicum obtusum appears to be a grass that will bind the soil without making a rank high growth that collects silt as bermuda does. Ditches sodded with bermuda often collect so much soil that they are useless for drainage.

The blizzard early in April injured the fruit prospects very materially. A very light crop of Montmorency cherries was picked. Prospects for grapes are less than 20 percent of normal on most varieties and are the poorest in 20 years.

Dr. Fredric E. Clements, Dr. Edith Clements, his wife, and Dr. Frances Long, his assistant, Ecologists with Carnegie Institution of Washington, spent Thursday afternoon and Friday visiting on the station. Other visitors consisted of a group of ranchers from Canadian, Texas.

Maximum temperature, 96°; minimum, 57°; precipitation, 0.69 inch.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

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JUN 18 1938

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REPORT FOR THE WEEK ENDING JUNE 18, 1938.

HAVRE:

Rainfall during the past week helped small grains and other crops. June precipitation to date is below normal, however, conditions in general continue quite favorable. Small grains on fallow look very good, but continuous cropping will need moisture, injury from drought already being in evidence.

In the experimental field, winter wheat and some early barley strains have headed. A very light crop of sweetclover was cut for hay. Corn and all row crops were cultivated, and alleys weeded a second time.

Haying equipment has been repaired in preparation for cutting alfalfa. The early clipping from the Ladak seed field yielded nearly double that of 1937, indicating that a fairly good first cutting might be expected. Repairing old fence lines and constructing a new pasture division fence is in progress at the cattle lease.

Visitors included Director Clyde McKee; A. H. Post, Agronomist; and L. F. Gieseker, in charge of the Soil Survey, Montana Experiment Station.

Maximum temperature, 89°; minimum, 43°; precipitation, 0.96 inch.

SHERIDAN:

Fair weather with about normal temperatures prevailed over the most of the week. One light shower was of considerable benefit to late seedings, the most of which are now emerging with good stands. Nearly all crops made good progress over the week. Winter wheat and barley in the rotations, the earliest seeding of Marquis spring wheat, and Brunker and 2 Markton x Fulghum crosses of oats are heading.

Plowing for fallow and green manure was completed. Bare fallow contained just about the right amount of moisture for good plowing. Land on which peas were growing, with a light stand but a good growth, was getting dry for plowing, while only last week the heavy growth of rye plowed nicely. Alfalfa varieties were cut, and some bulk hay was cut and hauled. Crickets were damaging the alfalfa to some extent, but over the most of the station this pest now seems to be fairly well under control. Small grasshoppers are thick in some places near the station, but have not yet appeared on the station in any numbers.

Maximum temperature, 88°; minimum, 43°; precipitation, 0.58 inch.

MANDAN:

Agronomy - Local showers during the past week moistened the top soil and helped to keep the crops from burning. Good rains were reported west of here.

Most of the week was spent in haying, which was delayed somewhat by showers.

Corn is coming very well and so far little cutworm damage shows up, but nearby areas report serious damage.

Maximum temperature, 92°; minimum, 42°; precipitation, 0.31 inch.

Cooperative Grazing Experiment - Crested wheatgrass has been in full head in the pastures for several days. It is starting to dry in spots.

Horticulture - A good rain would be very beneficial to horticultural plantings. However, the weather has been cool and no severe drought injury is yet apparent. Hoeing and the routine care of seedbeds and tubbed trees has occupied labor during the week.

Hoeing and thinning of vegetable crops has been in progress. The past few days of warm weather has hastened the maturity of various crops. Peas are filling in pods and will be ready early next week, cauliflower is heading, lettuce, spinach and radishes are ready for the table. Sweet corn and tomatoes are making rapid growth and apparently are not yet suffering from dry weather.

Irrigation of lawns has been in progress during the entire week and will continue into next week. The sod was getting very dry and more time than usual has had to be spent in soaking it up.

Peonies are coming into bloom and are producing an excellent show. Hybrid rugosa roses, Philadelphus sp. in variety and Physocarpus opulifolia are the only shrubs in bloom at the present time.

Arboriculture - Cultivation and hoeing has been in progress the entire week. Caragana and honey locust seedlings have been sprayed in an attempt to control blister beetle injury. Insects consisting chiefly of grasshoppers, blister beetles, cutworms and plant lice are continuing to do severe damage. Replanted Chinese and American elm seed is now emerging to good stands. Precipitation would greatly help in assuring a fast growth of these seedlings which might enable some to escape insect injury.

DICKINSON: (Week ending May 28, 1938),(Original copy lost in transit).

Showers on three days with moderate temperatures, plenty of sunshine and ample moisture in the soil made excellent conditions for the development of vegetation. Grains and grasses have developed rapidly; stands have thickened and the color has improved.

On the rotations the stands are excellent except on spring plowing, where as a result of the dry condition of the soil the stands are somewhat thin. Grasses seeded a week ago are emerging.

Corn, flax, and millet were seeded on the rotations. Corn and flax varieties and increase fields were planted. Ten selections of flax made by Dr. H. L. Bolley were included in the tests. Some of the corn hybrids being recommended by seedsmen for this area were included in the corn varieties.

The orchard has contained a fair amount of bloom during the week. Light to a fair set of fruit is developing on most of the early varieties of fruit. The freeze on May 7 when the temperature dropped to 20 degrees killed some of the fruit. Lilac is just coming into bloom, being late in relation to other vegetation.

Poisoned bran was spread for grasshoppers. These insects are thick enough to cause damage to crops later unless the rainfall is heavy enough to cause a heavy growth of vegetation. Sugar beet web worm moths are abundant.

Visitors included: Mr. and Mrs. D. Aylen, Deptartment of Agriculture, Salisbury, South Rhodesia, and Wayne Austin, Soil Conservation Service.

Maximum temperature, 76°; minimum, 36°; precipitation, 0.69 inch. Precipitation to date in May, 2.95 inches; normal for May, 2.23 inches.

DICKINSON:

Four light showers and moderate temperatures during the week made ideal conditions for growth of crops. The maximum temperature of 88 degrees on Friday was the warmest day of the year to date and the highest temperature recorded on any day since May 1.

Early varieties of barley in the nursery and some of the earliest planted wheat in the district are beginning to head. Wheat and barley on the rotations will begin heading early next week. The tallest wheat on the rotations is on rotation 62, now about two feet high and just ready to head. The crop outlook in general is probably the best since 1932.

Corn and potatoes on the rotations and increase fields of corn were cultivated. Rye and peas on the green manure rotations were plowed under. Trees were cultivated and are being hoed as fast as possible. Weeds have grown rapidly and the stands are thick in most places where the soil has not been cultivated this spring.

Poison bait was again spread for grasshoppers. With plenty of green succulent feed available it has been necessary to poison most areas two or more times to clean up the hoppers.

Visitors included John S. Cole, Division of Dry Land Agriculture; J. H. Erickson of the Walsh County Agricultural School, Park River, North Dakota, and 57 FFA boys who visited the station enroute to Yellowstone Park; Arne Tollefson and two other County Commissioners, Watford City, North Dakota.

Maximum temperature, 88°; minimum, 43°; precipitation, 0.60 inch. Precipitation to date in June 2.11 inches.

BELLE FOURCHE: (Week Ending June 11, 1938).

Strong, warm winds, and moderately high temperatures early in the week were very injurious to advanced plant growth, but abnormally cool weather during the last few days afforded some relief to crops. Small grains on fallow and green-manured land began to fire, and extensive burning occurred on all other cultural treatments. Flax is still in good condition on summer-plowed sweetclover sod, but is commencing to burn on corn ground. Considerable available moisture was present in the first 10 to 12 inches of soil at the beginning of the week, and such severe drought injury, only 5 days after beneficial rains were received, was surprising. Temperatures were not exceptionally high, but evaporation was excessive on 3 of the first 4 days.

Grasshoppers have become much more numerous than during any year of recent history, and the infestation apparently is considerably heavier on irrigated land than on dry land. Ditch banks, irrigated alfalfa fields and adjacent areas are literally alive with young hoppers, and extensive damage to crops seems inevitable. Many tons of poisoned bait have been distributed, but good kills have not been sufficiently general to permit effective control.

Sudan grass and sorgo were planted during the week. All hay crops were harvested, as they had burned beyond recovery. Summer fallow plots, roads, and alleyways were duckfooted or cultivated.

Maximum temperature, 86°; minimum, 37°; precipitation, 0.07 inch.

BELLE FOURCHE:

Warm weather prevailed throughout the week, and injurious, strong warm winds occurred during the last 2 days, when temperatures were the highest. Two negligible light showers were received, and the total precipitation for June to date is only 0.17 inch, as compared with an average of 2.58 inches for the month.

All early crops are suffering seriously from lack of moisture. Some of the small grain has burned beyond recovery and very little of the spring wheat, oats, and barley on corn ground or plowed land will be able to head unless rain is received within the next few days. Over 75 percent of the winter wheat has finally succeeded in heading, and oats and barley are attempting to head. Corn has been backward all spring, but made a good growth during the recent warm weather. Potatoes are up, and sorgo is beginning to emerge.

D. A. Spencer, Division of Animal Husbandry, visited the station.

Maximum temperature, 91°; minimum, 46°; precipitation, 0.10 inch.

ARCHER:

The weather during the week was mild and, at times, cool with considerable wind during the fore part of the week. Precipitation was recorded every day except June 13 but the total was only 0.01 inch. To date the total precipitation during June is 0.14 inch. Local showers of considerable magnitude occurred quite generally but missed the station. A considerable portion of eastern Wyoming and western Nebraska, which was reported on June 11 as being in need of rain, has received precipitation.

Crops at the station are in fair condition. Winter wheat on the better methods of fallow is in good shape while that on the pooror methods of fallow is burning. Growing crops and late seeded corn would be greatly benefited by a copious rain.

Work at the station consisted of putting up the winter rye hay. The first 10 acres of this crop produced at the rate of 4699 pounds of hay per acre. The cultivation of corn in the rotation plots was started.

Director W. L. Quayle of the University of Wyoming, J. M. Duncan of the International Harvester Company, Wilkie Collins of the Soil Conservation Service, and fourteen Land Policy Specialists visited the station during the week.

Maximum temperature, 81°; minimum, 44°; precipitation, 0.01 inch.

NORTH PLATTE:

The June drought has continued through the week, broken only by a light shower. It has been rather disheartening to see what would have been a bumper crop with normal June rain turn white and gradually dry up. The week has been rather cool which has helped reduce the effects of the drought but today (Saturday) is windy and warm, and the burning is severe. The winter wheat is mostly filled, and still a little green in the upper parts of the culm, and a good shower may prevent severe shriveling. The light shower on Tuesday night was accompanied by heavy wind and much of the straw of the oats, weakened by drought was broken over. Grasshoppers are beginning to do a great deal of damage.

The corn looks good, having a good supply of moisture to draw on from the rains of April and May. The first cultivation was completed this week, and thinning is in progress. The sorghums are emerging with good stands.

The sweetclover plots were plowed this week, and the fallow plots rod-weeded. The roadways of the plots were freed of weeds.

Mr. Hugh Butler, president of the Butler-Welch Grain Company of Omaha visited the station on Friday to examine the wheat for black stem rust. Some rust was found, but probably no more than is expected in normal years.

Maximum temperature, 97°; minimum, 43°; precipitation, 0.25 inch.

AKRON:

Clear, hard-driving, southwest wind all day Sunday left its mark on the crops of this region. Komar spring wheat, not yet in head, has a peculiar brownish green appearance all over the station due to the drying-up of the leaf tips. A field of Club Mariout barley in the neighborhood, fully in head and very promising, showed a peculiar silver gleam to the awns by Monday evening. By Wednesday the whole head had taken on a ripe color. Many farmers have observed similar bad effects to crops from these winds, and classify them as electric storms. That there is plenty of static electricity in the air can be proved by turning on the radio. This wind's peculiar action on the barley indicates some other possible damage than laceration of tender tissues.

Showers all over the region with some hail reported, the station sharing three of them lightly. The filling grain on the station is by this week end showing some shortage of soil moisture on certain preparations. On the whole small grain crops still look very showy.

The corn and the forage sorgos show satisfactory stands all over the station. The grain sorghums, however, are very questionable. Rotation kafir plots and 10 acres of increase Highland Kafir across the railroad were rotary hoed today to break crust formed by the 0.55 inch of dashing rain received about the middle of the week. This machine touches the furrow-opener seeded kafir cover very lightly, but tears the row middles nicely thus delaying the emergence of weeds.

Seeding was in progress most of the week with the rotation bean plots, the potatoes, beans, and millets on the two-year rotation project, the rate of seeding proso, the fallow plots along the highway, and today the Sudan grass on the forage variety series. Variety corn was thinned and is today being cultivated, the first of such cultivation for the season. Corn and sorghums, generally, are getting a nice start in advance of the weeds.

Much rogueing has been accomplished, and much remains to be done. The pines set in 1935 are making some nice growth this year. Annual spring crops field day has been set for June 28. Alfalfa varieties were harvested.

Mr. J. J. Curtis brought Mr. Horace Smith, a graduate student, down Tuesday to take active charge of the Cereal Experiments during the growing season. Several car loads of Odd Fellows, in District Convention in Akron, drove to the station Wednesday evening for a toured trip about the station.

Maximum temperature, 93°; minimum, 47°; precipitation, 0.65 inch.

COLBY:

The wet weather continued this week. There has been some windy and dusty weather, also, with considerable soil blowing on bare fields. The rains which have fallen recently have been mostly of the gully-washer type which have caused much erosion and run-off and which have packed the surface of fallow fields so that they blow very readily. Farmers are experiencing difficulty in getting stands of sorghums due to crust forming over the seed or covering of the newly emerged plants.

The small grains appear to have ample moisture for present needs, but the supply is not abundant here on the station. The small grains are looking rather ragged on the plots because of the dry weather toward the last of May and because they were hailed twice. Barley is very unpromising. Grasshoppers are very numerous and threaten considerable damage to oats and barley. The winter wheat is rather heavily infested with orange leaf rust and lightly with stem rust. It is generally less than two feet high.

Corn is making fairly good growth. The sorghums came up to fairly good stands, but had to be replanted as the young plants were mostly covered up during the dashing rains. Unless light rains moisten the crust that has formed since replanting they may have to be replanted again.

The June 15 fallows were plowed today. The plots which had been previously worked were very wet. On those which had not been worked there was a thick growth of thistles about 6 inches high so that in spots the soil turned up only barely moist. The other fallow plots in the M.F. series were surface worked as the surface was crusting and weeds were starting.

Maximum temperature, 89°; minimum, 51°; precipitation, 0.96 inch.

GARDEN CITY:

The rainfall this week came in three light showers which totaled 0.24 inch. The total thus far this month is 0.86 inch. Two days were slightly dusty, but no local blowing occurred.

The row crops are up to a fair stand, and thinning will probably start next week. Grasshoppers are still very numerous, even though poison bran and a weed burner have been used to try to control them. However, they have done no serious damage to the row crops as yet.

Field work consisted of cultivating and splitting ridges on the fallow plots and hoeing weeds. Soil samples were taken on the milo plots on the basin lister project, the continuous and fallow plots of milo and the wide row milo plots on the main project. The depth of moisture on the continuous milo was about one and one-half feet while the depth on the fallow plots was about three feet.

The interior and the roof of the office were painted this week.

Visitors included Dr. H. H. Laude, Professor of Farm Crops; J. C. Hide, Assistant Professor of Soils; and L. L. Compton, Extension Assistant Professor of Soils, all of Kansas State College.

Maximum temperature, 92°; minimum, 55°; precipitation, 0.24 inch.

HAYS:

The weather during the past week has been generally quiet and part cloudy and rains occurred on three days, the 14th, 15th, and 17th. Wind accompanied the rains and caused considerable lodging of the small grains. Some of the wheat will rise again but there is fear that a considerable amount of it that will make poor recovery from the last lodging because the straw is weakened by stem rust. On previous occasions the straw simply lodged whereas during the last storm some of the straw was broken.

The conditions during the week have been very favorable for development of the stem rust, the mornings having been very wet from rains and dew and sunshine added the necessary warmth during the early mornings although the remainder of the days part cloudiness prevailed.

The wheat kernals are still plump but soft and it looks like there may still be heavy shrinkage of the grain on account of stem rust and lodging before it is sufficiently mature to harvest. Kanred is one of the varieties that is lodging badly and is suffering severely from rust.

Oats and barley are carrying considerable stem rust and badly lodged at this time. Spring wheat stands well at a height of about 48 inches and looks very promising at this time. Thus far it does not carry much rust. Spring-seeded alfalfa is about three inches high and is more nearly free from weeds than any spring seeding of alfalfa we have had for several years. It was the second seeding, however, the first seeding having been a failure. Bromegrass sown at the time the alfalfa was first seeded resulted in a good stand but it is very weedy. Corn and sorghums are all up to fair stands.

Grasshoppers are very thick over all parts of the station as well as over the county. They are already nibbling on some of the row crops and threaten serious damage if not quickly killed.

During the week 600 pounds of bran was made into poison mash and spread over the project for the grasshoppers, and more is being mixed and spread today. Other work consisted of plowing the O plot of the M.F. Winter Wheat fallow series, and cultivation of other fallow plots and alleys. The ground was dry enough for tillage only 1½ days during the week.

Maximum temperature, 94°; minimum, 50°; precipitation, 1.55 inches. By the Weather Bureau gauge on the campus it measured 1.36 inches.

TUCUMCARI:

The week was marked by moderate temperatures, low wind movement, considerable cloudy weather, but only 0.17 inch precipitation.

The second date of corn variety plots, forage sorghum varieties, and some 100 rod-rows of grass selections were planted. Nearly 40 acres of increase land was planted to Sudan grass or milo, much of this on the contour.

Tree rows, orchard and vineyard were cultivated, with weeds mowed around the grounds, along fence lines, and bordering tree rows.

The majority of crops planted last week emerged to good stands, with crusted soil reducing the stand on a few plots. It has been necessary to replant only two plots. Growing conditions are favorable and farmers are rushing to complete planting.

In the Second Deficiency Bill, Congress appropriated $250,000, available immediately after July 1, for beginning work on the Arch Hurley Irrigation Project. This project, it is understood, will serve to irrigate some 30,000 acres of land within a 12-mile radius of Tucumcari. The Conchas Dam Project received $5,400,000, which is expected to complete the work on the dam late in 1939.

Maximum temperature, 94°; minimum, 55°; precipitation, 0.17 inch.

DALHART:

A total of 0.29 inch of rain was received during the week. This came on 4 separate days. Every night during the week it has rained in some direction from the station, and these rains have been generous. But we continue to occupy the center of the same desolate, dry spot as reported in last week's report.

The corn plots, which were planted the last day of May, were thinned during the week. For the first week after emergence the plants were a sickly green color, but during the past 4 or 5 days they have taken on a healthy green color and are about 5 inches high. Pinto beans emerged to thick stands. Shifting sand burned the first few leaves on these plants. But now they, too, have a healthy color. Peanuts emerged to as near perfect stands as have been secured, and, while small, have a vigorous appearance. Nearly comparable stands were secured for the June 1 date of planting of the sorghum varieties. In the last few days they have started growth and will do to thin the coming week. Soybeans rotations are thick and vigorous.

After waiting in hopes of rain before planting it seemed prudent to start some planting after the 15th. Some increase fields were planted to Finney milo, the last date planting of the sorghum varieties, and one replication of a sorghum nursery. Just here and there was there sufficient moisture for germination.

The fallow plots were plowed during the week. And most of some increase land in the west field was plowed late in the week. This hill area is most susceptible to blowing of any land on the station. Last summer the land was purposely planted to Sudan grass to show what had been observed on smaller areas. The area which is approximately 20 rods wide was planted in 44-inch rows. Each alternate 20 rows was then doubled back which gave 22-inch rows. Two crops of Sudan hay were harvested last year. When the last crop was cut with a row binder last fall the binder was run as low as it could be. This left about a 4 to 5-inch stubble. Literally and actually millions of tons of sand swept over this area from the first of March until the middle of this month. Late the afternoon of the 15th the area was harrowed with a 'flat' harrow to break the now rotten Sudan stubble. A strong wind from the southeast came up while harrowing. Plowing was started the next morning upon soil which was figuratively as undisturbed as if it had been under a tarpaulin all winter. There was little to choose between the ordinary and the doubled-rows; the doubled-rows were safer with end winds -- i.e. winds blowing down the rows. But the area was an excellent visual illustration of the minimum cover protection needed for the most satisfactory results. To the two men who were on the station through all of the soil blowing during the blow-season this area with short Sudan stubble, which was untouched after harvest last fall until June 15, was considered with a kindly feeling usually not bestowed upon inanimate things.

Maximum temperature, 93°; minimum, 57°; precipitation, 0.29 inch.

BIG SPRING:

Another week of replanting for this section was caused by a torrential downpour on the night of June 11 when 2.28 inches of rain was received in less than 2 hours; this was followed by 0.33 inch on the fourteenth. This covered everything that had been planted during the previous week, and will necessitate the replanting of all cotton in the county for the third and fourth time. It seems that hail, sand blowing and rain have all worked towards defeating the farmers in their attempts to get their crops started this spring. If stands of cotton are not obtained from the past week's plantings, it will be just a gamble to try to make a crop from later ones. In the date of seeding tests at the Station it has been found that cotton planted after June 15 must have a long and favorable frost free period in the fall to mature anything but bollies.

Station work during the past week has included replanting, scratching, and spot planting in an attempt to get something to stick; this makes the third and fourth plantings for a large part of the stuff.

Mr. E. W. Johnson of the Woodward Station visited here during the week and also made his annual inspection of the tree plantings in this area.

Maximum temperature, 99°; minimum, 59°; precipitation, 2.72 inches.

WOODWARD:

Winds and high temperatures of the past week have brought rapid ripening of wheat. Weather has been unsettled, and threatening rain, but with only two light showers totaling 0.10 inch. The unsettled state of weather coupled with reports of disaster to the wheat crop fifty miles and more to the east of us has added to the apprehension of farmers. They have been in the fields over the past week with every binder that could be rigged up.

Combines have been running the past few days. Farmers are reporting yields of 15 to 25 bushels, which is much higher than they expected. There is some lodging in most all fields, and this entails some loss, but rarely over 10 percent. On the station yields apparently are running 30 bushels and better on well prepared fields and plots.

The pastures have been bright with a great display of wild flowers all spring. Some of the seed from which all this bloom springs must have been dormant for many years. The new growth on trees is tropical in its lushness and vigor.

Due to practically all land being in wheat there has been less call for sorghum seed at the station than ever before.

Work of week has consisted of planting sorghums on rotations and in variety tests and harvesting wheat, and in cultivating and hoeing weeds from windbreaks and grass plots.

LAWTON:

Sorghum crops have made a rapid growth during the past 18 days of moderate temperatures and 7 rains that amounted to 2.02 inches. Corn is tasseling, but plant growth is not as rank as usual. Cotton stands are irregular and in some instances poor. Some plants died shortly after emergence during the cool, wet weather. The crop as a whole is quite late.

Harvest of spring-seeded oats was completed June 16. All seedings lodged nearly 100 percent a day or two before maturity. Crown rust and stem rust infections were very heavy. Grain yields will be low and the weight per bushel light.

Wheat yields throughout the county average 6 to 7 bushels per acre and the test weight is about 58.

Where punishment has not been too severe in former drought years, native grass pastures have made a wonderful recovery this spring.

Mr. H. L. Westover, Division of Forage Crops and Diseases, and L. W. Osborn, Extension Agronomist, Stillwater, Oklahoma were station visitors on the 17th.

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

GPO 123668

JUN 25 1938

Not for publication without
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REPORT FOR THE WEEK ENDING JUNE 25, 1938.

HAVRE:

Frequent rains prevented much field work from being done, 2.52 inches of precipitation occurring. Cool temperatures and cloudy skies were ideal for the growth of small grains, grass, and alfalfa. On Wednesday night torrential rainfall in the foothills of the Bear Paw mountains caused serious local floods. Nine persons drowned near Laredo, six miles southwest of the station. The Great Northern railroad track was washed out in many places. The town of Havre, situated on the flood plain near the mouth of a dry water course was completely inundated with 2 to 4 feet of water, much property damage resulting. Beaver Creek flowing thru station land reached the highest stage ever witnessed here; bridges, fences, and the irrigation dam being destroyed, but with no loss of life or livestock in the immediate vicinity. The flood in another drainage course on the east boundary also swept away fences and retarded highway traffic. However, crop damage at the station was comparatively slight.

Roadways were weeded in the experimental field and certain row crops received a second cultivation. Hoeing corn and sunflowers is in progress. All cereals are beginning to head, stands and growth being excellent. Some cultivation of fallow was completed on the general farm, rain hindering operations. The cattle breeding herd was divided into four groups, the bulls being trucked to the lease and turned in.

Visitors included J. S. Cole of the Division of Dry Land Agriculture; A. E. Seamans of the Huntley Montana Field Station; also R. T. Clark and E. R. McCall of the A. H. Department, Montana State College.

Maximum temperature, 89°; minimum, 52°; precipitation, 2.52 inches.

JUDITH BASIN: (Week ending June 18, 1938).

Up until Friday hopes for winter grains and some spring sown crops were disappointing as firing continued to damage fields seriously. The timely rain at the end of the week will prove to be a life saver for all plant growth at present.

Crested wheatgrass which was to be cut for hay now has possibilities of making seed.

Cultivation of nurseries, alleys, shelterbelts and rotations have been in progress. Odd pieces of grass, roadways, and lawns about the buildings have been cut and raked. Tomatoes, peppers and cabbage were received from Bozeman for garden planting.

Visitors this week include, John S. Cole of the Washington office, Director Clyde McKee, Professor A. H. Post and F. L. Gieseker of the Experiment Station Staff at Bozeman and Mr. Arthur Seamans of the Huntley Station.

Maximum temperature, 82°; minimum, 38°; precipitation, 1.06 inches.

JUDITH BASIN:

Cloudy weather with rain prevailed throughout the week with the exception of Monday and Tuesday which were clear and warm. Wednesday brought heavy rains and hail to the area with only light hail falling at the station. Severe hail damage was reported a few miles west and extending to Utica on the south and other places to the north. Cloud-bursts at Lewistown, Windham and other points have also been reported. Plots that were reported to have been firing are again in good condition. To date June lacks about an inch of being normal. All rain received this week has been taken up by the crops and soil with little run-off.

Cutworms have damaged some corn stands making replanting necessary.

Work during the week consisted of harrowing and cultivating corn, hoeing and cultivation of shelterbelts and gardens, mapping of quadrats in the crested wheatgrass and bromegrass pastures, repairing of machinery and whitewashing the cow barn.

Mr. John S. Cole and Mr. Arthur Seamans returned to the station Monday noon and spent some time inspecting the station and surrounding area. Mr. L. P. Reitz, Agent of the Office of Forage Crops and Diseases was an official visitor on Friday and Saturday.

Maximum temperature, 82°; minimum, 45°; precipitation, 1.44 inches.

HUNTLEY: (Week ending June 18, 1938).

A torrential shower early in the week did not greatly benefit crops except in spots where run-off concentrated, but later showers relieved winter wheat to some extent. This crop, however, is again showing need of moisture. Spring grains continue to look fresh and vigorous, and soil samples indicate a fair amount of moisture still present in most plots. Corn, soybeans, sorgo, and Sudan grass have responded to the higher temperatures and have made a good growth. Crested wheatgrass is fully headed on the older plantings and should make a good crop of seed with average conditions prevailing from now on.

Mormon crickets are nearing the station from the foothills on the south, and preparations are being made to check the march or to divert it from crop lands.

Field work has consisted of replanting corn hills destroyed by pheasants, cultivating row crops, weighing pasture hogs and hoeing fence rows.

Station visitors included John S. Cole of the Washington office.

Maximum temperature, 88°; minimum, 52°; precipitation, 0.96 inch.

HUNTLEY:

Relatively heavy precipitation during the week has improved crop conditions considerably. The rains of the last two days have practically assured the filling of winter wheat and rye and have built up a good reserve for spring grains and corn. Spring grains are not well headed out. Higher temperatures have encouraged the growth of corn, sorgo and soybeans which have shown marked advancement during the week.

Mormon crickets have continued their advance into the valley from the foothills in the vicinity of the station. An effort to halt the march is being made by the use of tin barriers, traps and dusting guns. Approximately 2 miles of barriers and traps have been built south of the station fields. The insects have done little damage to crops as yet but have seemingly confined their feeding to native vegetation.

Field work consisted of haying and cultivation operations.

Maximum temperature, 93°; minimum, 51°; precipitation, 2.13 inches.

SHERIDAN:

Crickets became more active again about the middle of the week over the most of the main part of the station, some damage to headed grain becoming apparent. Mowing of hay meadows apparently caused a general migration from the meadows to the standing grain. All fields in plots, and meadows where the hay had been taken off, were dusted wherever the duster could be gotten through, and it was necessary to go through some of the bulk winter wheat.

Haying was stopped by rain on the 23rd., but most of the hay had been gotten in by that time except the plots of grass hay and some of the poorest of the bulk hay. Quite warm weather over the first 5 days of the week was favorable for the growth of corn and late forage. A start was made with thinning the corn in the rotations, but was stopped by rain yesterday. Winter wheat and early varieties of oats and barley are now practically all headed, while spring wheat, oats, and barley in the rotations are heading. A large part of the winter wheat on fallow went down with the rain yesterday, but it seems likely that it will straighten up again at its present stage of growth.

The rain yesterday (24th) was exceptionally heavy in some sections, especially north and southwest of Sheridan and south of the station, washing the highways badly in places and doing considerable damage to crops. There was only just a nice rain on the station, however, which should be of great benefit to crops. Firing of spring crops on fall plowing, and of some winter wheat, was becoming evident by the middle of the week.

Maximum temperature, 87°; minimum, 52°; precipitation, 1.19 inches.

MANDAN:

Agronomy - Two or three days during the week were rather hot. Small grains burned badly on some of the rotations, especially on fall plowing.

Most of the week was spent in putting up hay, but work was delayed by rain.

A very fine rain started on the afternoon of the 23rd and 0.36 was recorded the next morning. Rain started again the evening of the 24th and 1.00 inch was recorded the following morning. The rain continued during the day and this morning 0.67 was recorded. This rain will be of much benefit to grain crops. The hay in field B. was caught in the rain, but most of it will dry out without great damage.

Maximum temperature, 96°; minimum, 50°; precipitation, 2.03 inches.

Cooperative Grazing Experiment - Native vegetation dried up in places over the pastures and they were starting to turn brown. The good rain should bring on the grama grass rapidly and green up the pastures again.

Horticulture - Good rains at the end of the week were very beneficial to all horticultural plantings. We should now be fairly sure of a crop of early maturing varieties.

Work during the week included spraying plums and chokecherries for aphids, spraying potatoes for blister beetles, thinning fruit where needed, and hoeing.

Blister beetles of all species are becoming a serious pest on vegetables. Potatoes have been sprayed once, but will have to be sprayed again. Other crops such as beets, rutabagas, eggplant, etc, are also infested. Grasshoppers while very numerous do not seem to have inflicted much damage so far.

All garden crops are now coming along fine. Alaska and Radio peas are ready for use as are also cauliflower and head lettuce in variety.

Philadelphus varieties, Spirea rosea, and hybrid rugosa roses are the only shrubs in bloom at the present time. Peonies are still making a show but are fading fast. Delphiniums, Gypsophilas, Anthemis, Erigeron, are other perennials in bloom.

Work in the Vegetables and Ornamentals division has consisted of hoeing and thinning vegetables in the field, trimming hedges and pruning trees and shrubbery about the grounds.

Arboriculture - Cultivation and hoeing has been continued during the week. Caragana and honey locust seedlings have been sprayed. Precipitation has been very beneficial for all types of plant growth. The more or less moist atmosphere has been very favorable for extremely heavy damping-off of recently emerged American elm seedlings. This is the third planting of this species, the two former plantings having been entirely destroyed by insects.

Visitors for the week included A. D. Stoesz, M. M. Hoover, and R. E. Culbertson, Soil Conservation Service; Ernest Wright, Entomologist, U. S. Forest Service; and F. E. Cobb, Plains Shelterbelt Project.

DICKINSON:

Rain was recorded on four days during the week as follows: June 19, 0.38 inch; June 23, 0.41; June 24, 1.70; June 25, 0.07; a total of 2.56 inches. This was so distributed that the water penetrated the soil well with little run-off at the station. Rain was heavier in localities to the northwest, north and northeast with much run-off and soil washing.

Early seeded wheat and barley are nearly fully headed. Victory oats on the rotations are just beginning to head. With the water now in the soil and a vigorous appearance of most plots the outlook is for average or higher yields of oats and barley.

Stem rust was found on wheat on June 21 and leaf rust was noted a few days earlier, both forms on susceptible varieties in the nursery. On June 24 a trace of stem rust was found on Marquis and Ceres wheat. This is believed to be the earliest rust infestation for several years at least. First trace of stem rust is usually found here during the first week of July. Grains are tall, thick and leafy so in view of the humid conditions which have prevailed during the past week or ten days and which continues, rust may develop rapidly. Wheat will not be blooming for another week at least and it is probably 30 days or more until harvest.

Brome and crested wheatgrass are now in full bloom. Some patches were cut for hay during the week with yields above average.

Cultivation and weeding of all crops has gone along as rapidly as the weather would permit. Weeds are coming on thick in all row crops.

Visitors included A. J. Dexter, Agricultural Development Agent, Northern Pacific Railway, Dr. J. R. Parker, Bureau of Entomology, and F. H. Higgins and Fred Drum, Grain Commission men, Minneapolis, Minnesota.

Maximum temperature, 90°; minimum, 55°; precipitation, 2.56 inches. Precipitation to date in June 4.67 inches, normal for June 3.21 inches.

ARCHER:

During the week ending June 25 the weather was rather cool. Precipitation occurred every day of the week. Three local showers, totalling 1.69 inches, occurred June 19, 20, and 21. While most of this region has received rain a few small areas are still in need of it. The rains and damp weather which followed prevented the hauling of rye hay from the dairy field and also prevented most of the tillage work. Low spots are muddy but the cultivation of the drier rotation plots is in progress.

The rains have been of great benefit to growing crops and pasture grasses, however, weeds have taken full advantage of the situation.

Station operations consisted mostly of pruning dead wood from the trees, the Russian olives furnishing most of the brush.

County Agent C. S. Llewellyn visited the station June 23.

Maximum temperature, 85°; minimum, 43°; precipitation, 1.77 inches.

NORTH PLATTE:

The first beneficial rain for June fell Sunday night and amounted to 1.44 inches at the dry land station. The moisture will prevent further burning of the small grain, and help to fill the grains which are still green. Estimates on the yields of winter wheat on fallow are not over 15 bushels and many plots will no doubt yield less. The rain covered the emerging sorghums with soil in the field plots and reseeding was necessary. The barley looks fairly good and the oats are somewhat burnt and badly broken over. Grasshopper damage in the spring small grain is severe. Many of the heads of oats have been clipped off by hoppers in the D.L.A. plots and the oats and barley nursery has been abandoned and will not be harvested.

Corn thinning was mostly completed during the week. Fallow plots were weeded and the roadways duckfooted. The late date of seeding of sorghums was made in the varietal plots.

Twenty-three students and their instructors of the travel class from the State College of Ames, Iowa visited the station on Thursday and inspected the livestock feeding yards, the dry land station and were taken into the sand hills to see how cattle raising is carried on in the sand hills.

The station had as its guests about 150 farmers and their families at the annual crops field day. There seemed to be unusual interest expressed in the various projects. Dr. Keim and Dr. Quisenberry of the College of Agriculture at Lincoln were included on the program.

Maximum temperature, 101°; minimum, 59°; precipitation, 1.62 inches.

AKRON:

Hottest weather of the year with four consecutive days with maximums above 93. Local showers and some hail over the region with the station sharing 4 of them lightly. Consequently spring wheat has never been able to repair the leaf damage caused by the hard driving wind reported last week. Barley, oats, and winter wheat were nearly all in head and leaves were not damaged by this wind. However the heat of the past week has caused premature ripening, and reports of burning from the countryside. The station has thus far accumulated but 1.25 inches of the expected 2.85 inches average.

Field work is well in hand after a week of intense activity. Sudan grass was seeded on the forage variety series. Bean, proso and foxtail millet variety experiments were seeded. Rotation fallow and green manure plots were worked with the peacock machine for the first time since the beating rain of 2.68 inches late in May. Emerging weeds necessitated the cultivation. Roguing of seeded grains has taken much time this spring; much more than in recent past years. Alfalfa varieties afforded a cutting this year after having skipped last year.

Grain sorghum stands are very unsatisfactory this spring; the damaging element appearing to have been the 0.55 inch of beating rain on June 13, about 5 days after seeding. Corn and forage sorghum stands are very satisfactory.

Second application of grasshopper poison was spread today, the second consecutive week. While there does not seem to be the number of the past 2 years, still there now appears to be fully enough to seriously damage later crops unless controlled. A horde of beet webworms invaded the north side of the station early in the week, necessitating the spraying of the variety corn and the first replication of the forage and grain sorghum variety experiment. By this week end the kill appears to have been good with no permanent damage to the crops in question.

Harvest will again be early, with prospects of some soon after the first of July. Some oats may be ready to binder harvest by next week end.

Mr. J. J. Curtis came down from Fort Collins, today to meet Mr. J. A. Clark and to inspect the wheat plantings. County Extension Agent from Julesburg, and Field Man for the Great Western Sugar Company stationed at Sterling called late this afternoon.

Maximum temperature, 98°; minimum 54°; precipitation, 0.21 inch.

COLBY:

This week has been dry and comparatively hot and windy. Rain threatened almost every day, but almost none fell. The dashing rains earlier in the month packed and smoothed the surface so that bare fields which had not been roughened by tillage started to blow during the rather high winds which prevailed nearly all day and most of the night last Saturday and for shorter periods nearly every day since then. The temperature rose to 101 on Wednesday and 100 on Thursday. On Wednesday a hot wind blew from the southwest most of the day.

All of the small grains have ripened considerably and will probably be ready for the binder this coming week. On the plots the straw is too short to bind well. The spring wheat is about 2 feet tall, the winter wheat about 18 inches, the oats about 16, and the barley not over a foot on most of the plots. The heads are all short with kernels missing from nearly every head, due mostly to hail. Some of the empty heads and some of the empty glumes found on nearly all heads appear to be due to frost injury. The kernels that did form are filling well. It looks as though the winter wheat will be of high quality. There is some stem rust in late fields and green patches in early fields which may do some damage to wheat planted late and that which started new shoots after being hailed. A considerable acreage is late due to hail.

Grasshoppers are thick in pastures and all small grain fields. They are more numerous this year than ever in the last 26 years. Daily poisoning this week has thinned them out very considerably on the project. Rabbits, also, are very numerous.

Corn and the surface planted sorghums are making nice growth. Nearly all of the listed sorghums had to be replanted as they had just come up when a dashing rain washed them under. Rabbits are beginning to eat off some of the corn and beans.

Maximum temperature, 101°; minimum, 60°; precipitation, 0.01 inch.

GARDEN CITY:

The rainfall this week came in three rains totalling 0.46 inch. The dust is apparently more nearly under control, for no storms occurred this week. The past few days have been quite warm, but there has been no 100° temperature as yet.

A trip to Hays Thursday showed that there may be some fair wheat yields this season to the north and to the east of here. The binder was being used considerably and a few fields were being harvested with the header. Most of the pastures had a good stand of grass, principally blue grama. The pastures in this immediate vicinity are mostly covered with thistles, but there are a few seedlings of blue grama and buffalo. The wheat on the station was completely killed by thistles, except for that on the M.F. wheat plots.

Field work consisted of rodweeding and duckfooting fallow plots; lightly one-waying the wheat plots to kill the thistles, thinning sorghums and taking soil moisture samples.

Maximum temperature, 99°; minimum, 63° precipitation 0.46 inch.

HAYS:

The weather has been clear about half the time this week, and the temperature climbed to the 100° mark for the first time this season. It began to look like a whole week would escape without rain, but that chance was spoiled yesterday by a light shower late in the afternoon.

Row crops are making rapid growth. The corn is now about 6 inches high and sorghums about 3 inches. Weeds are not asleep. Where they have escaped cultivation they are 12 to 18 inches high and very vigorous. The row crop plots, however, are free from large weeds,-the cultivator is making all the row crop plots clean.

Barley and oats came to maturity rather hastily on account of rust, but fair yields of barley should be threshed from the plots. Oats suffered more from lodging and likely will make lighter yields. Both barley and oats were badly lodged on some of the plots.

Winter wheat is gradually drying up on account of carrying a heavy load of stem rust. It is quite badly lodged on some of the plots. A few combines have started in the vicinity and fair yields are reported,-it is most too early yet to get reliable yield reports. The wheat on the plots will not be sufficiently dry for combining until Monday or Tuesday of next week. Four plots were harvested with the binder the 23d. All the other winter wheat plots will be harvested with a combine.

Work during the week consisted of spreading poison bran mash over the project again, cultivation of fallows, row crops and cultivation of roadway not recently cultivated,-making a final clean-up previous to loading the combine on the tractor. Barley and oats were all harvested June 22 and 23. Weeds were mowed on the alfalfa and brome grass plots. Thinning of row crops were started, and the combine is being loaded on the tractor and tuned up for the harvest.

Maximum temperature for the week, 100°; minimum 64°; precipitation, 0.49 inch.

Mr. O. R. Mathews, Senior Agronomist of the Division of Dry Land Agriculture, arrived Thursday morning and is spending a few days on the station.

TUCUMCARI:

Threshing of the MC plots of wheat and rye resulted in surprisingly good yields, considering the hardships these plots had withstood. Acre yields of MCA, B, and C wheat were 2.0, 5.8, and 12.5 bushels, respectively: the corresponding plots of rye produced 3.0, 10.7, and 11.4 bushels to the acre.

Furrow openers on the surface planters made it possible to plant variety and date plots on their designated date, although the surface soil was dry some 3 inches. Planting included grain

sorghum variety, date, spacing plots, nursery rows; broomcorn plots; and cowpea and bean variety-date plots.

Wind has been from the East, NE, and SE, much of the week, with considerable cloudy weather. Yesterday a local shower of 0.19 inch was received. Seedlings are growing well and ranges are in good condition, but a general rain will soon be needed.

Note to Field Men: Would it be of general interest if a short half page in News Letter were devoted to precipitation summary from all stations, something like this:-

1938 Precipitation Compared with Normal

Period Jan. 1 to June 25.

Station	Years recorded	Normal	1938

If this were done, each field man would note in his report each week the two figures for his station. Office typographical force would be glad, of course, to make the table, placing it on last sheet of report. Personally, it seems that a concise table of this nature would give us all a bird's-eye view of the 1938 "trend" in the Great Plains from a precipitation standpoint.

DALHART:

Two rains during the week totalled 0.37 inch. While this amount of precipitation is inconsequential, for normal or above precipitation for the remainder of the current crop year is necessary for the production of worth-harvesting crops, yet there seemed to be sufficient penetration of the second rain of 0.22 inch which fell Friday afternoon to insure germination and emergence of the dusted-in sorghums seeded prior to Friday noon. This dry area, previously referred to in the weekly reports, continues of the same size while the adjacent territory continues to give flattering prospects for crop production.

The grasshopper poisoning war, which has now been waged for seven weeks, will continue unabated for another week on its present scale and will then continue on a lesser scale for a short time. The chief seat of operations has been on the western front (this front is in the counties of Hartley and Dallam). The intensive campaign also includes Moore and Sherman counties which are adjacent to and east of the two first named. For four weeks now the attack has been coordinated and directed by one general supervisor. The poison has been hauled from central mixing points by trucks to the farms and ranches. All available State Highway trucks in the western part of the State have been concentrated in this area as well as one fleet of trucks from the National Guard. While the figure is not authentic there is probably an equal number from each of these two agencies, operated by their own personnel, and a lesser number of trucks from other cooperating sources including precinct trucks, county trucks, and BAE and SCS trucks. Possibly 150 trucks are available for hauling the 350,000 pounds of poison which is hauled daily. Lesser amounts of wind during the past

week has permitted more favorable weather for poisoning.

The thinning of the sorghum varieties which were planted on June 1 was done during the week. Comparable stands were secured for all varieties. The corn, peanut, and beans on the rotations made good growth during the past week. Soybeans were doing well until grazed by jackrabbits. Fencing was delayed until today as fencing to screen out the jackrabbits may cause shifting sand to cover up the plants.

Counts made on the next day after first emergence of the Finney milo, 9 acres planted June 16, showed an average emergence of 80 percent. This was planted at two rates, 1½ and 1-3/4 pounds of seed per acre, and there is now 3 times as many plants on the thinnest rate as there should be. The sorghum varieties planted June 17 are up to from good to scattering stands. The sorghum nursery planted June 18 and June 20 (the second replication June 20) shows good to excellent stands in most rows. Current notes show rather striking differences between selections in the number of hours from seeding to emergence in the dry-moist soil (the term 'dry-moist' is used, for the soil was too dry for some of the slower germinating sorghums to fully germinate and emerge to complete stands). A miscellaneous group of selections upon which a yield test is desired was planted June 20. They also show this quick-germination factor to be of considerable importance when seeding in nearly dry soil.

In order that the kafir and milo rotations might be seeded by June 25 this operation was started in dry soil on the 23d. This was the first time that this method of seeding has been relied upon for the rotations. Depending upon the tillage method or preparatory cultural practice for the seedbeds, the soil ranged from flowing sand (dry, deflocculated soil particles) to clods of sufficient size to throw the planter aside. In one case where a thin layer of sand had been held by short Sudan stubble there seemed to be moisture for germination. It is now felt that the emergence should be good (as explained in the first paragraph) except for the last plots which were seeded during the four hours that the rain lasted. Some Sedan kafir seeded June 22 will be showing emergence by the 26th (it is all but peeping through late this afternoon). The cowpea and forage rotation plots remain to be planted. Additional planting is planned but present plans can hardly be called definite.

Maximum temperature for the week was 95°; minimum, 60°; precipitation 0.37 inch.

BIG SPRING:

Weather conditions during the past week have been more favorable for crop production than any time since the first of May. Crops that have been planted during the past 10 days are just starting to emerge again, and showers which have been falling intermittently during the past 2 days will aid materially in emergence to good stands. Practically all cotton in the county has been replanted, but there still remains a considerable acreage of feed to be planted.

An increase field of sumac, hegari, and milo was replanted during the week; with the exception of some late planting experiments,

it is hoped that this has completed the station planting for this year. Other work has consisted of staking fields for plot trimming, knifing rotations, and fencing soybean varieties against rabbit damage.

Maximum temperature for the week 96°; minimum 59°; precipiation 0.56 inch.

LAWTON:

Row crops of corn, cotton, and sorghums continued to respond to the optimum growing conditions of the past week with amazing rapidity. Field forces were busily engaged in cultivating, mowing, and a general cleanup of fields, roads, and waste areas. A continual weed fight throughout the summer has resulted in a very satisfactory condition at the present time. A good rain, quite general over the south-western and the central eastern part of the State measured 1.12 inches at Lawton on the 25th. Chinch bug injury is very apparent on many of the sorghums and unusually favorable weather will be required to mature a satisfactory crop.

Maximum temperatures during the week ranged from 79° to 96° and the minimum range extended from 63° to 76°.

WOODWARD:

Woodward area was making good progress in wheat harvest until halted by a slow steady rain of 1.18 inches last night and a small shower this morning. The station received a torrential rain of 2.48 inches on the night of June 18. As a result of the heavy rain much of the wheat went down on the plots of ranker growth, but a few warm days brought most of it up so that the plots were cleaned very well by the aid of pick-up guards. Harvesting of wheat was completed yesterday on the D.L.A. plots. Yields have not been determined definitely but they are as good or better than expected. One plot, on fallow, weighed before cleaning, yielded 41.5 bushels per acre. The Cereal Division is reporting a yield of 56 bushels per acre taken as an average of quadruplicates, two plots on fallow and two on cropped land.

Sorghums seeded in lister furrows were reseeded. The heavy rain of June 18 washed the ridges in on the small seedlings and covered them so deep they could never get out. Apparently the ridges did not wash in as badly on F plots as on plots cultivated previous to listing. Probably, this was due to the soil being held by the roots of weeds. Sorghums on contour lister-dammed plots were reseeded in small skips. Apparently the water in the furrows checked the material washed in and deposited it farther up on the side of the ridge.

E. W. Johnson has been in Texas inspecting cooperative plantings for the past 3 weeks.

Work consists of harvesting, cultivating corn, replanting sorghums, cultivating nursery and windbreaks, and taking soil samples.

Maximum temperature, 97°; minimum 63°; precipitation, 3.67 inches.

PENDLETON: (Report for the week ending June 18.)

Rains during the past week have materially improved crop conditions in the Columbia Basin area. The rains were a little too late for some of the lighter land areas. Winter wheat is taking on a golden color indicating sufficient moisture to mature the crop. Temperatures have not been high but extremely sultry weather has prevailed, with frequent thunderstorms in the mountains.

Visitors: A group of 20 Walla Walla County AAA Committeemen under the leadership of Mr. H. C. Burgess, County Agent.

A party of 19 Soil Conservation Service nurserymen from the 11 regions of the S.C.S. in the United States. Included in the party were:

Dr. F. J. Crider, In Charge Soil Conservation Nurseries, Washington D.C.
Dr. M. M. Hoover, " " " " Grass " " " "
Dr. A. L. Hafenrichter, " " " Nurseries, Pullman, Wash.
W. A. Rockie, Regional Conservator, Region 11, Spokane, Wash.
Dr. A. D. Stoesz, Rapid City, S. Dak.
F. W. Herbert, Santa Paula, Calif.

Maximum Temperature, 82°; minimum, 35°; precipitation, 1.35 inches.